

CURRICULUM VITAE of Prof. ZHAO ZHONGZHEN (zzzhao@hkbu.edu.hk)

Qualifications:

1982 B.S., Beijing University of Traditional Chinese Medicine
1985 M.S., China Academy of Traditional Chinese Medicine
1992 Ph.D., Tokyo University of Pharmacy and Life Science
2003 Registered Chinese Medicine Practitioner (004100), Chinese Medicine Council of Hong Kong

Professional Chronology:

1984.12-1987.04 Research Assistant, China Academy of Traditional Chinese Medicine
1987.04-1988.04 Visiting Scholar, Tokyo University of Pharmacy and Life Science
1988.04-1990.12 Lecturer then Assoc. Prof., China Academy of Traditional Chinese Medicine
1990.12-1992.06 Visiting Scholar, Tokyo University of Pharmacy and Life Science
1992.08-1999.03 Research director, Laboratory of Chinese Medicine, ISKRA Industry Co. LTD. Japan
1999.04-2005.06 Assoc. Prof., Course Director-BPharm, School of Chinese Medicine, Hong Kong Baptist University
2009.07-2010.01 Visiting Scholar, Osher Research Center, Harvard Medical School
2005.07-2012.01 Prof., Course Director-BPharm, School of Chinese Medicine, Hong Kong Baptist University
2012.02-2014.06 Asso. Dean, School of Chinese Medicine, Hong Kong Baptist University
2014.07-present Chair Professor, Asso. Dean, School of Chinese Medicine, Hong Kong Baptist University

Appointments:

- Advisor of Traditional Medicines in the West Pacific Region of World Health Organization
- Advisor of the USP Dietary Supplements- Botanicals Expert Committee
- Member of Chinese Medicines Board, Chinese Medicine Council of Hong Kong and International Advisory Board, HK Standard of Chinese Materia Medica and Department of Health, HK
- Member of the Chinese Medicine Development Committee of Hong Kong Government
- Member of Chinese Pharmacopoeia Committee, China

Research Fields:

Chinese Materia Medica Authentication and Pharmacognosy

Representative publication in the past five years (* corresponding author):

1. LL Wong, ZT Liang, H Chen, **ZZ Zhao***. Ingredients authentication of commercial Xihuangcao herbal tea by microscopic technique combined with UPLC-ESI-QTOF-MS/MS. *Analytical Methods*. 2015, **7**(10): 4257-4268
2. Y Jaiswal, ZT Liang, A Ho, HB Chen, **ZZ Zhao***. Metabolite profiling of tissues of *Acorus calamus* and *A. tatarinowii* rhizomes by using LMD, UHPLC-QTOF MS and GC-MS. *Planta Medica*. 2015, **81**(4): 333-341
3. QL Wang, ZT Liang, Y Peng, JL Hou, SL Wei, **ZZ Zhao***, WQ Wang*. Whole transverse section and specific-tissue analysis of secondary metabolites in seven different grades of root of *Paeonia lactiflora* using laser microdissection and liquid chromatography-quadrupole/time of flight-mass spectrometry. *Journal of Pharmaceutical and Biomedical Analysis*. 2015, **103**: 7-16
4. ZT Liang*, YJ Chen, L Xu, MJ Qin, T Yi, HB Chen, **ZZ Zhao***. Localization of ginsenosides in the rhizome and root of *Panax ginseng* by laser microdissection and liquid chromatography-quadrupole/time of flight-mass spectrometry. *Journal of Pharmaceutical and Biomedical Analysis*. 2014, **105**: 121-133
5. L Yi, ZT Liang, Y Peng, P Guo, LL Wong, XJ Wan, HM Ho, **ZZ Zhao***. Histochemical evaluation of alkaloids in rhizome of *Coptis chinensis* using laser microdissection and liquid chromatography/mass spectrometry. *Drug Testing and Analysis*. 2015, **7**(6): 519-530
6. Y Jaiswal, ZT Liang, A Ho, LL Wong, P Yong, HB Chen, **ZZ Zhao***. Distribution of toxic alkaloids in the tissues from three herbal medicine *Aconitum* species using laser micro-dissection, UHPLC-QTOF MS and LC-MS/MS techniques. *Phytochemistry*. 2014, **107**: 155-174
7. Y Jaiswal, Z Liang, A Ho, P Guo, H Chen, **ZZ Zhao***. Tissue-specific metabolite profiling of *Cyperus rotundus* L. rhizomes and (+)-nootkatone quantitation by using laser micro dissection, UHPLC-QTOF MS and GC-MS techniques. *Journal of Food and Agricultural Chemistry*. 2014, **62**(29): 7302-7316
8. YJ Chen, ZT Liang, Y Zhu, GY Xie, M Tian, **ZZ Zhao***, MJ Qin*. Tissue-specific metabolites profiling and quantitative analyses of flavonoids in the rhizome of *Belamcanda chinensis* by combining laser-microdissection with UHPLC-Q/TOF-MS and UHPLC-QqQ-MS. *Talanta*. 2014, **130**: 585-597

9. XX Huang, ZT Liang, HB Chen, **ZZ Zhao***, P Li*. An experimental study on four kinds of Chinese herbal medicines containing alkaloids using fluorescence microscope and microspectrometer. *Journal of Microscopy-Oxford*. 2014, **256**(1): 6-22
10. ZT Liang*, KY Oh, YQ Wang, T Yi, HB Chen, **ZZ Zhao***. Cell type-specific qualitative and quantitative analysis of saikosaponins in three *Bupleurum* species using laser microdissection and liquid chromatography–quadrupole/time of flight-mass spectrometry. *Journal of Pharmaceutical and Biomedical Analysis*. 2014, **97**:157-165
11. H Xie, JR Wang, LF Yau, Y Liu, L Liu, QB Han, **ZZ Zhao***, ZH Jiang*. Catechins and procyanidins of *Ginkgo biloba* show potent activities towards the inhibition of β -amyloid peptide aggregation and destabilization of preformed fibrils. *Molecules*. 2014, **19**(4): 5119-5134
12. H Xie, JR Wang, LF Yau, Y Liu, L Liu, QB Han, **ZZ Zhao***, ZH Jiang*. Quantitative analysis of the flavonoid glycosides and terpene trilactones in the extract of *Ginkgo biloba* and evaluation of their inhibitory activity towards fibril formation of β -amyloid peptide. *Molecules*. 2014, **19**(4): 4466-4478
13. Y Jaiswal, ZT Liang, A Ho, HB Chen, **ZZ Zhao***. A comparative tissue specific metabolite analysis and determination of protodioscin content in Asparagus species used in Traditional Chinese Medicine and Ayurveda by use of laser micro dissection, UHPLC-QTOF MS and LC-MS/MS techniques. *Phytochemical Analysis*. 2014, **25**(6): 514-528
14. MH Wu, W Zhang, P Guo, **ZZ Zhao***. Identification of seven Zingiberaceous species based on comparative anatomy of microscopic characteristics of seeds. *Chinese Medicine*. 2014, **9**(1): 10
15. Y Jaiswal, Z Liang, P Yong, H Chen, **Z Zhao***. A comparative study on the traditional Indian Shodhana and Chinese processing methods for aconite roots by characterization and determination of the major components. *Chemistry Central Journal*. 2013, 7(1): 169
16. ZT Liang*, J Zhang, LL Wong, T Yi, HB Chen, **ZZ Zhao***. Characterization of secondary metabolites from the raphides of calcium oxalate contained in three Araceae family plants using laser microdissection and ultra-high performance liquid chromatography- quadrupole/time of flight-mass spectrometry. *European Journal of Mass Spectrometry*. 2013, **19**(3): 195-210
17. XJ Wan, ZT Liang, HB Chen, **ZZ Zhao***, P Li*. Identification of daqingye and banlangen including crude drugs and decoction dregs from three plant species by normal light and fluorescence microscopy. *Microscopy Research and Technique*. 2013, **76**(8): 774-782
18. ZT Liang, TT Sham, GY Yang, L Yi, HB Chen, **ZZ Zhao***. Profiling of secondary metabolites in tissues from *Rheum palmatum* L. using laser microdissection and liquid chromatography mass spectrometry. *Analytical and Bioanalytical Chemistry*. 2013, 405(12): 4199-4212
19. ZT Liang*, NN Leung, HB Chen, **ZZ Zhao***. Quality evaluation of various commercial

specifications of *Polygoni Multiflori Radix* and its dregs by determination of active compounds. *Chemistry Central Journal*. 2012, **6**(1): 53

20. L Yi, ZT Liang, Y Peng, X Yao, HB Chen, **ZZ Zhao***. Tissue-specific metabolite profiling of alkaloids in *Sinomenii Caulis* using laser microdissection and liquid chromatography-quadrupole/time of flight-mass spectrometry. *Journal of Chromatography A*. 2012, **1248**: 93-103
21. MH Wu, P Guo, HB Chen, **ZZ Zhao***. An ethnobotanical survey of medicinal spices used in Chinese hotpot. *Food Research International*. 2012, **48**(1):226-232
22. **ZZ Zhao***, P Guo, E Brand. The formation of daodi medicinal materials. *Journal of Ethnopharmacology*. 2012, **140**: 476-481
23. LL Wong, ZT Liang, HB Chen, **ZZ Zhao***. Authentication of Chinese Materia Medica decoction dregs. Part II: comparison before and after decoction of four Chinese Materia Medica that mainly comprise storage tissue. *Microscopy Research and Technique*. 2012, **75**(2): 164-175
24. LL Wong, ZT Liang, HB Chen, **ZZ Zhao***. Authentication of Chinese Materia Medica decoction dregs. Part I: comparison of morphological and microscopic features of four Chinese Materia Medica before and after decoction. *Microscopy Research and Technique*. 2011, **74**: 320-328
25. **ZZ Zhao***, ZT Liang, P Guo. Macroscopic identification of Chinese medicinal materials: Traditional experiences and modern understanding. *Journal of Ethnopharmacology*. 2011, **134**(3): 556-564
26. ZT Liang, YX Shi, HB Chen, **ZZ Zhao***. Histochemical analysis of the root tuber of *Polygonum multiflorum* Thunb. (Fam. Polygonaceae). *Microscopy Research and Technique*. 2011, **74**(6): 488-495
27. YQ Wang, ZT Liang, Q Li, H Yang, HB Chen, **ZZ Zhao***, P Li*. Identification of powdered Chinese herbal medicines by fluorescence microscope, Part 1: fluorescent characteristics of mechanical tissues, conducting tissues, and ergastic substances. *Microscopy Research and Technique*. 2011, **74**(3): 269-280
28. Q Li, C Chu, YQ Wang, HB Chen, P Li*, **ZZ Zhao***. Authentication of the 31 species of toxic and potent Chinese materia medica (T/PCMM) by microscopic technique assisted by ICP-MS analysis, Part 4: four kinds of toxic and potent mineral arsenical CMMs. *Microscopy Research and Technique*. 2011, **74**(1): 1-8
29. ZT Liang, HB Chen, ZL Yu, **ZZ Zhao***. Comparison of raw and processed *Radix Polygoni Multiflori* by high performance liquid chromatographic fingerprint and mass spectrometry. *Chinese Medicine*. 2010, **5**: 29-37

30. GH Lu, ZQ Dong, Q Wang, GS Qian, WH Huang, ZH Jiang, KSY Leung, **ZZ Zhao***. Toxicity assessment of nine types of decoction pieces from the daughter root of *Aconitum carmichaeli* (*Fuzi*) based on chemical analysis of diester diterpenoid alkaloids. *Planta Medica*. 2010, **76**: 825-830
31. **ZZ Zhao***, ZT Liang, K Chan, GH Lu, ELM Lee, HB Chen, L Li. A unique issue in the standardization of Chinese Materia Medica: Processing. *Planta Medica*. 2010, **76**: 1975-1986

Granted projects as principal investigator (in the last 5 years):

1. Research on the standardization of Chinese materia medica. Shenzhen Tsumura Medicine Co Ltd. 2015. HK\$5,000,000.
2. Identification of the source plants in honey by microscopic analysis of pollens. HKBU Faculty Research Grant. 2015. HK\$143,000.
3. Correlating microscopic characteristics and biologically active components for evaluating the quality of Chinese medicinal materials. Hong Kong General Research Fund. 2015. HK\$661,659.
4. Discovery of potential components attributed to pro-fibrotic activity of *Aconitum carmichaeli* Debx.. HKBU Faculty Research Grant. 2014. HK\$127,500.
5. Standardization on the nomenclatures of Chinese medicinal materials and decoction pieces sold in Hong Kong. Innovation and Technology Fund. 2014. HK\$ 416,000.
6. Clarifying the Lingnan medicinal materials of Compendium of Materia Medica (Ben Cao Gang Mu). National Natural Science Foundation of China. 2014. RMB\$ 700,000.
7. Exhibition at InnoCarnival 2013: matching towards modern Chinese medicine: conservation of rare Chinese medicines resources and exhibition of modern Chinese medicine technology. Innovation and Technology Fund. 2013. HK\$ 719,000.
8. Laser microdissection analysis: Linking morphology and biochemistry to assess the quality of Chinese medicinal materials. Hong Kong General Research Fund. 2012. HK\$ 843,720.
9. HKCMMS Phase VI: Collection of CMM samples and chemical assay of *Carthami Flos*. Dept. of Health, HKSAR. 2011. HK\$ 251,000.
10. Histochemical analysis of Chinese medicinal materials by combining laser microdissection with LC-MS. National Natural Science Foundation of China. 2011. RMB\$ 650,000.
11. Mapping and extraction of active components in the stem of *Sinomenium Acutum* by combining laser microdissection with LC-MS. HKBU-FRG. 2011. HK\$ 120,000.

Selected Books (as chief editor):

1. HB Chen & **ZZ Zhao**. “Illustrated Taxonomic Identification of Chinese Medicinal Plant Origins”. *Fujian Science and Technology Press*. Fuzhou. (in press)
2. **ZZ Zhao** & HB Chen. “Chinese Medicinal Microscopic Identification”. *Fujian Science and Technology Press*. Fuzhou. (in press)
3. **ZZ Zhao** & HB Chen. “Chinese Medicinal Identification: An Illustrated Approach”. *Paradigm Publications*, Brookline, Mass and Taos, New Mexico. 2014.
4. **ZZ Zhao**, HB Chen. “Illustrated Chinese Materia Medica” (Japanese Version). *New Technology New Science Inc.(NTS)*. Japan. 2012.
5. **ZZ Zhao**, HB Chen. “Illustrated Chinese Materia Medica” (Simplified Chinese Version). *Fujian Science and Technology Press*. Fuzhou. 2010.
6. **ZZ Zhao**, HB Chen. “Illustrated Chinese Materia Medica” (Traditional Chinese Version). *Wanli Ltd*. Hong Kong. 2010. (chief editor)
7. **ZZ Zhao**, ZT Liang, P Guo, HB Chen. Medicinal Plants of China. In: *Genetic Resources, Chromosome Engineering, and Crop Improvement: Medicinal Plants*, vol. 6. CRC Press, Boca Raton, FL. 2012: 123-162
8. **ZZ Zhao**, P Guo, SJ Hung. Commonly Used Western Herbal Medicinals. *Wan Li Book Co.*.2012
9. **ZZ Zhao**. Processing of One Hundred Chinese Materia Medica (Simplified Chinese Version). People’s Medical Publishing House. 2011
10. **ZZ Zhao**. Processing of One Hundred Chinese Materia Medica (Traditional Chinese Version). *Wan Li Book Co.*. 2010
11. **ZZ Zhao**, PG Xiao. Encyclopedia of Medicinal Plants (English Version), Volumes 1-4. Shanghai World Publishing Corporation. 2010